ACCOUNTING AS AN AID TO COMPLIANCE WITH THE ROBINSON-PATMAN ACT

BY

WILLIAM EDGAR THOMAS, JR.
B.S., Monmouth College, 1936
M.S., University of Illinois, 1937

AN ABSTRACT OF A THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN
ACCOUNTANCY IN THE GRADUATE SCHOOL OF
THE UNIVERSITY OF ILLINOIS, 1942

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AN ABSTRACT

In the 'twenties, Congress became increasingly aware of the decline in the competitive position of the independent merchant, and in 1928, the Federal Trade Commission was ordered to conduct a comprehensive investigation of the chain store system of distribution. The report covered the buying advantages of the chains over the independent merchants, and the discounts and allowances that formed the concessions of the manufacturers and producers to the chains. Inasmuch as price was the principal appeal of the chains it was pointed out that the discounts and allowances which the chains were able to obtain as a result of their superior bargaining power were a very important source of income. The Commission recommended that discriminations of this type be prohibited by the amendment of Section 2 of the Clayton Act.

The relationship between the units in the distributive system had changed tremendously. In the latter part of the nineteenth century monopoly had threatened in the field of production. At that time the producers were the owners and operators of the large units, while the retailers and wholesalers were relatively small and numerous. With the advance of the twentieth century and the increasing strength of the mass distributors, the situation was almost reversed. The mass distributors had accumulated such large amounts of purchasing power that they were sometimes superior in dealings with manufacturers, and as their bargaining position increased, their purchasing power increased, and the condition became a cumulative one. Because of this it was felt that the mass distributors represented a potential threat to competition in the field of distribution, and so to protect competition, it was necessary to restrict or cancel the weight of the concentration of purchasing power of the mass distributors in their dealings with the manufacturers.

Undoubtedly there were personal interests behind the move to amend the Clayton Act as well as a general fear of potential monopoly. Pressure groups representing the agents of the orthodox system of distribution worked for the passage of the legislation. However, it should be stressed that no single group was responsible for the passage of the Act, and that the economic conditions outlined above would have led inevitably to the passage of the Act.

The reaction of business men to the passage of the Act ranged from the one extreme of establishing a one-price policy to the other extreme of a complete disregard for the provisions of the Act.

This thesis is written primarily from the standpoint of the business man who seeks to comply with the letter and the spirit of the

Robinson-Patman Act, who feels that the law is a codification of business ethics, and who desires to treat all customers in a similar manner unless some of his customers assume a distribution function normally performed by him and thereby relieve him of that particular cost. The thesis is a presentation of the problems confronting the accountant and an indication of the approach to the solution of the problems which arise from a desire to comply with the Robinson-Patman Act and yet use price differentials in selling. Incidently, it outlines procedures which may aid companies charged by the Federal Trade Commission with discrimination to account for the gap between their prices when those prices were not made on the basis of cost studies. The writer feels that the positive approach is to prevent the carrying out of transactions which are illegal rather than to attempt to justify transactions after they have been made. Therefore, the emphasis in this thesis is upon the cost studies which should be made to establish legal price schedules, but it will also indicate other types of information which are desirable to include in the accounting records for the protection of management when charges of discrimination are made.

If the Federal Trade Commission charges that a company has discriminated in price between purchasers of goods of like grade and quality, the company may set up any of three types of defenses, which are (1) the denial of the jurisdiction of the Federal Trade Commission, (2) a defense on the merits of the case, or (3) the justification of an admitted discrimination.

A denial of the jurisdiction of the Federal Trade Commission might be made by contending that the sales involved in the discrimination were not made in interstate commerce, that the sales were for export, or that the sales were sales of a service rather than sales of a commodity. If a respondent builds his defense upon the absence of interstate commerce, accounting can be of little aid except to provide an analysis of sales to prove that no sales were made across state lines. Evidence of no sales in other states is not conclusive evidence of an absence of interstate commerce, for transactions carried out within a state may be considered as a part of the flow of interstate commerce. Another denial of the jurisdiction of the Federal Trade Commission may be made on the basis that sales were made in export trade. The accounting records of the exporter would show to whom goods were sold, but accounting can not aid the manufacturer who sells to exporters in proving that the goods so sold were actually exported. If a manufacturer sells to a distributor who sells both domestically and in foreign trade, the manufacturer may price all the goods sold on the basis of domestic distribution and (provided the manufacturer wishes

to sell goods for export at a lower price) give the distributor a rebate on goods exported upon receipt of satisfactory evidence of shipment. This would protect the manufacturer from charges of discrimination if goods sold presumably for export were diverted into domestic channels by the distributor. Of course, accounting would be of aid in computing the amount of the rebate.

If the discrimination is in the sale of a service instead of the sale of a commodity, the Federal Trade Commission does not have jurisdiction, and so a defense might be built around this point. In this case, cost accounting can be of aid in demonstrating the exact amounts of material, labor, and overhead in the unit of commodity or service, the relative amounts of which are important in arriving at a decision as to whether the unit is a service or a commodity.

Instead of denying the jurisdiction of the Federal Trade Commission, the respondent may base his defense upon the merits of the case. One defense of this type is an outright denial that there was discrimination because of the absence of a price differential. Accounts receivable, invoices, and other records should be valuable in establishing this defense.

A second defense on the merits of the case is that goods involved in the alleged discrimination were not of like grade and quality. Tests which may be made to determine whether goods are of like grade and quality are the physical test, the test of utility and capacity for service, and the competitive test. If the physical test is applied, the information which can be obtained from the cost accounting system about the elements of cost in the product should be valuable evidence. If the utility test or the competitive tests are applied, accounting can be of little if any aid.

A third defense on the merits of the case is that one of the customers involved in the alleged discrimination was not a customer within the meaning of the law. An amendment to the Act specifically exempts institutions, such as schools, universities, public libraries, churches, hospitals, and charitable institutions.

A fourth defense might be that the effect of the challenged sale would not in the course of events be substantially to injure, destroy, or prevent competition. One basis for this defense might be to prove that the purchasers served different market areas or different classes of customers within the same area and that there was no overlapping of classes. If materials are sold for further processing it would be necessary to show that the materials were not used for competitive products or that the price differential could have no effect upon the competitive relationship between the two processors. If there is ad-

mitted competition between the purchasers, tests to determine the effect of price differentials upon competition may be (1) to obtain testimony of parties as to the general effect upon their business, (2) to study the trend in sales and net profit of the parties concerned before and after the discrimination, and (3) to compare the costs of the merchants involved in competition and to investigate and appraise the effect of variations in cost resulting from price differentials upon their competitive relationship. The tendency seems to be to apply the third test most often. The value of presenting comparative profit and loss statements is questionable. However, accounting data are useful in translating the price differentials into the differential for each unit sold by the competitors, for the purpose of showing the possible effects upon the unit selling price and the resultant injury to competition.

If discrimination is made between purchasers, the respondent may admit it, but base his defense upon certain justification as provided by law. One justification for price differentials between purchasers is that the price was made in response to changing market conditions, sale of deteriorated, obsolescent or discontinued goods, or sales under court process. The only possibility of accounting being of aid in this defense is in proving the date of the acquisition of goods when the respondent is basing his defense on the sale of deteriorated goods.

A second justification is that the difference in price was the result of meeting the price, service, or facilities of a competitor. This is generally interpreted to mean that the respondent may meet, but must not exceed, price differentials and the service and facilities of competitors. Accounting is of no aid to the business man in justifying price differentials on this basis. His best protection is an exact knowledge of what his competitors are doing.

The third justification is based upon a study of the costs of manufacture and distribution. Specifically the law provides, "that nothing herein contained shall prevent differentials which make only due allowance for differences in the cost of manufacture, sale, or delivery resulting from the differing methods or quantities in which such commodities are to such persons sold or delivered." It is about this justification that the thesis is written primarily; it is to indicate the possibilities of accounting as an aid to management in the establishment of the maximum allowable price differential for a customer under this section of the law.

The accountant who has been assigned the task of analyzing distribution costs for the purpose of supporting price differentials already given or to prepare a discount schedule will find that much of the work done in making analyses for management is unsuitable, and that an-

alysis must be carried farther than is generally done for management. In general, the analyses made for management are for the purpose of aiding in the determination of what to sell, where to sell, how to sell, and to whom to sell, and in the elimination of non-productive costs. Thus, managerial analyses are generally analyses by products, by territories, by channels of distribution, and by customers. The analysis for the determination of legitimate price differentials must be to discover the difference in the cost of manufacturing, sale, and delivery of goods of like grade and quality to competing customers. It must demonstrate the cost of distributing a unit of product to each of two customers in the same competitive area, and, thus, must be carried one step farther than either the managerial analysis for products or the managerial analysis for customers. Further, a different approach may be used for the two analyses. If management is confronted with the problem of whether to add a product, a territory, or class of customers, an analysis on the basis of differential or marginal costs will be invaluable. An analysis based on the marginal or differential cost approach would be entirely unsuitable for the purpose of justifying price differentials because of the apparent intention of the framers of the Act not to allow marginal costs as a basis for justification for price differentials.

The accountant who must establish legal price differentials has a difficult task. While the law states that the justification rests upon differences in cost, there is no precise definition of the costs which may or may not be included in the computations. The accountant will find little help in a study of the few cases which have been settled or in a study of the Congressional Record. A positive statement is made in the H. C. Brill case by the Commission in explaining that the cost of selling, credit, ordering, shipping, advertising, and other elements can be considered as producing a differential in cost. A definition of the functions mentioned is not made, and "other elements" is, of course, rather vague. In any case, the accountant will include or exclude the cost on the basis of his ability to demonstrate a causal relationship between the cost and the allocation unit which is the product-customer. At one extreme are costs which unquestionably may be included because they can be traced definitely to the product sold to the customer. An example would be freight out. At the other extreme are costs which will probably be excluded in most cases because of the difficulty or impossibility of expressing and proving even an indirect relationship between the cost and the unit of the product-customer. Examples of this type are the cost of public relations work, and the directors' fees. While the accountant should be in a position to prove that a rela-

tionship does exist between the cost and the product-customer, the measurement of the relationship does not have to be specific and precise, but may be accepted by the Federal Trade Commission if it is reasonable.

The justification for price differentials may be found in manufacturing costs or distribution costs. It is generally agreed by commentators that there can be no difference in cost which will justify a price differential if manufacturing is for stock. However, if goods are made to order there may be differences in the cost to manufacture which may support a legal price differential. The test is whether the lower unit cost on the order is due to the method in which the purchaser placed his order or the quantity in which he ordered, or whether the variation in cost is due to some other factor. If the manufacturer carries materials in stock for use on orders from all potential customers, variations in this cost from one order to another can not be used as a basis for price differentials. If, however, materials are purchased specifically for orders as they are placed, variations in the price of materials may be reflected in price differentials. This is because the time at which the order is placed affects the price the manufacturer pays for materials, and the quantity ordered may make it possible for the manufacturer to take advantage of quantity discounts and lower transportation rates, resulting in lower units costs to the manufacturer for ordering and receiving. The time at which orders are received may give rise to differences in labor cost, which may be reflected in price differentials, primarily between orders produced in slack seasons and orders produced in rush seasons when overtime is required. The volume of different orders may produce a varying unit cost for labor because of the constant cost for set-up. Other constant costs which produce varying unit costs and justify price differentials are the cost of dyes, patterns, and any other equipment constructed for use on the one order. It seems to be Congressional intent not to allow overhead as a source of price differentials, so the cost analysis may be simplified by omitting this element entirely.

In analyzing distribution costs to discover cost differences for the justification of price differentials, the first step for the accountant is to define the functions and sub-functions of the distributive activities of the company. The second step is to find the cost of carrying out each sub-function. This cost is the total of the portions of the primary costs which apply to the sub-function, and while they vary from sub-function to sub-function, they may include such items as wages and salaries, supplies, heat, light, insurance, taxes, depreciation, and maintenance. If the study is being made to substantiate price differentials

already given, the costs used should be those incurred in the period in which the price differentials were given, but if the analysis is to be used for the construction of a discount schedule the costs used should be those budgeted for the period in which the schedules are to be used. When the sub-function cost has been ascertained, the next step is to allocate that cost to the allocation unit, which is the product-customer. The basis chosen should be an expression of the causal relationship between the sub-function cost and the allocation unit, and should, in all cases possible, be an objective measurement.

On a subject as complex as distribution, it is impossible to consider all possible cases which may require modifications of general statements. With this in mind, a list of distribution sub-functions are given (see chart, pages 16-22) with their bases of allocation to the allocation unit. The sub-function is listed first, next, the order of the allocation (that is, whether the cost is allocated first to the customer and then to the product, or first to the product and then to the customer), then the basis for making the first allocation, and finally the basis for making the second allocation.

The bases in the chart are familiar to the reader or are self-explanatory, except one. The basis is expressed as the proportionate mileage or the relative distance to each customer, and is used for the portions of salesmen's traveling costs and delivery costs, which vary with the factor of mileage. Since these costs are incurred in proportion to the mileage to be traveled to reach customers it is thought that mileage is the best basis for an allocation. If a terminal is used, for example, a warehouse for deliveries or a sales office for salesmen, the amount of mileage cost to cover his circuit which is to be allocated to a customer is the percentage of the distance which that customer is from the terminal of the total distance of all customers on that circuit from the terminal. The distance to each customer should be taken as the shortest practicable route for the salesman or delivery truck from the terminal to the customer. If the salesman does not operate from a terminal, a possible solution is to establish a base point for the measurement of distances. The base point should be established by plotting all customers on a map and averaging their distances from an X axis and from a Y axis.

Work to be done by the accountant in connection with the Robinson-Patman Act may be either an attempt to justify price differentials which have already been given by the company or to aid in the construction of price schedules so that no unjustifiable price differentials will be given. If he is charged with the former he will carry out the steps outlined above, allocating the costs incurred in the period in which

the alleged discrimination took place to the customers involved and to the products which they purchased. Of course, only the costs of the sub-functions which are used in serving the customer should be allocated to him. When the total cost of selling a product to a customer has been determined it can be reduced to a unit cost so the unit costs of the customers involved in the alleged discrimination can be compared.

A more positive approach is to establish price schedules which are legal, so there will be no possibility of a violation of the Robinson-Patman Act. The price schedules which the accountant may aid in constructing are the straight quantity discount, the cumulative discount, and the trade or functional discount. In addition to the preparation of discount schedules for use by various classes of customers, the accountant may be asked to determine the amount of the justifiable price discrimination for goods sold to one specific customer.

The accountant in building up a straight quantity discount schedule should go through the following steps: (1) a critical survey of all manufacturing and distribution costs, (2) the determination of costs which may be considered costs of manufacturing, selling, and delivery within the meaning of the Robinson-Patman Act, (3) the determination of the proper basis (if one can be found) for allocating each cost to the allocation unit which is the customer-product, (4) a classification of customers, i.e., a definition of the class of customer which is to use the discount schedule, (5) the determination of the costs listed in number 2 which may be included in the scheduled computation when the class of customer is considered, (6) the allocation of the costs chosen in step number 5 to a cost for each order, then the study of the variations of each cost with variations in the quantity of goods ordered and delivered, (7) the fixing of the brackets at points of break in the total cost curve for increasing quantities of goods ordered and delivered, (8) the conversion of the cost differences between brackets to a percentage of the base selling price because price schedules are customarily set up as percentages of a list price.

Steps one, two, and three require no comment here beyond what has already been mentioned in this summary. The fourth step is to define the type or class of customer to use the schedule. This must be done in a precise manner, for the inclusion of many of the costs in the computation of the cost differential depends upon the type of customer, the way in which he orders, the method in which goods are delivered to him, the way in which he pays for the goods, and, in general, the relationship between the customer and the vendor. The fifth step is to survey the costs listed in step number two and eliminate all which do not meet a requirement. That requirement is that the cost must not be

allocable to the customer-product on the basis of a customer characteristic, except such customer characteristics which are *uniform* for all customers who are to use the discount schedule. Examples of the characteristics of a customer are his distance from the warehouse, his habit of ordering by mail or through a salesman, and his habit of paying cash or buying on account. To include costs which are not constant for each customer for each quantity would mean that they would have to be included as an average. The resulting price schedule would then reflect the differences in the cost of selling different quantities to *average* customers. Discrimination is between *real* customers and the test of differentials may be made on the basis of the cost to sell to *real* customers. If the real customers vary in any way from the average which was the basis for their price differentials, the test will show unjustified price differentials. A uniformity of customer characteristics will eliminate this possibility.

The sixth step is to study the action of the cost for an order when the quantity of the order fluctuates. A separate study of this type should be made for each sub-function cost which is to be included in the computation of price differentials for the particular schedule being prepared. The sub-function cost curves for varying quantities should then be combined to find the total cost curve for varying quantities of goods.

The seventh step is to break the cost curve into segments to establish quantity brackets. The points at which division should be made are the points of significant change in the cost curve for each sub-function. If the cost curve is a smooth one the division will have to be an arbitrary one. Then the points established for all of the curves should be summarized to give the points on the total curve. If many breaks occur close together they probably should be combined in order to reduce the number of brackets. The adjustment will be made on the basis of the relative significance of the two costs giving rise to the breaks. If a pattern of the volume of orders has been established, the brackets should be set so that the greatest volume of orders for that approximate quantity will be centered in the bracket. In addition, the brackets should not be so large as to include unlike types of business such as "nuisance business" and regular orders from small dealers, or to make very important discrimination for each unit between the purchaser of the greater number of units in one bracket and the purchaser of the smallest number of units in the next larger bracket, nor should the brackets be so small as to, in effect, make the discount available to one or a few customers only.

The final step in the construction of the quantity discount schedule

is to find the percentages for the brackets of the schedule. The units of goods sold in the lowest bracket will be at list price. The discount for each bracket can be found by dividing the difference between the average unit cost in that bracket and the average unit cost in the lowest bracket by the list price.

Another type of discount schedule is the cumulative discount schedule. Cumulative discounts are not in themselves illegal. However, if cumulative discounts are to be given, they must be based upon cost differences which arise solely from a difference in total volume of purchases over a period of time in addition to the restrictions placed upon the cost computations for straight discount schedules. This in effect reduces the number of costs which may be used as the basis for computing the cumulative discount schedules to very few, if any. The resulting cumulative discounts will, therefore, be quite small, and probably, from a practical standpoint, cumulative discounts will seldom be used if there is strict compliance with the provisions of the Robinson-Patman Act.

The accountant may be required to aid in the preparation of not only straight quantity discounts and cumulative discounts but functional or trade discounts as well. After the Robinson-Patman Act was passed, there was serious question as to whether functional discounts were still legal. Most commentators now agree that they are. If the discounts are based upon the cost of the distributive functions assumed by the distributive agent they are unquestionably legal. In addition, it may be legal to increase the discount to give effect to interest on the investment and a "reasonable" profit, but these amounts must be limited in such a way that there can not possibly be any injury to competition.

A most important part of the preparation of the functional discount schedule is the classification of customers. The old classification of customers as manufacturer, wholesaler, retailer, and consumer is no longer satisfactory because of the growing complexity of the system of distribution. The discount schedules are to be based upon cost differences which, in turn, vary with functions performed for customers. Therefore, the classification of customers must be based upon the functions which are performed for those customers. The functions performed for any group of customers using one discount schedule should be homogeneous, at least so far as costs included in the schedule computation are concerned.

The general rules for the preparation of straight discount schedules must also be followed in preparing a functional quantity discount schedule. Each functional discount schedule must reflect cost dif-

ferences arising from the assumption of functions by the class of customers using that schedule. Not only should there be a cost relationship between the various quantity brackets on the schedule, but there must in addition be a definite cost relationship between the schedules used by the various classes of customers. Thus, the difference in price to any one customer must be accounted for by differences in cost arising either from differences in quantity of goods sold to the customer or from the cost of functions assumed by the purchaser. In the general preparation of discount schedules, all costs which might be legitimately included as supporting a cost difference are studied critically, and the changes in the cost of an order resulting from changing quantities ordered are studied and set up in tables or graphs. This procedure is followed for each sub-functional cost. To find the justifiable price differential between classes of customers it is necessary to combine the tables of cost of the sub-functions which the one class assumes as compared with the other. A comparison of the two tables will show the justifiable discrimination between the two classes for any quantity of goods. The discounts within each schedule should be determined solely on the basis of differences in cost resulting from differences in the quantity of goods sold on each order.

Another section of the Robinson-Patman Act which should receive the attention of the accountant is that on brokerage. Accounting may be of valuable aid in building a defense against alleged violations of the brokerage provision. If no brokerage was granted or received, the respondent may invite the accountants for the Commission to check accounting records for evidence of payment or receipt of any brokerage, commission, compensation, or allowance in lieu thereof. If the point of difference is the extent of control exercised over an intermediary, the accounting records may be used to prove the control exercised through holdings of stock or loans.

Another section of the law is intended to prohibit payments by the seller to the buyer for services or facilities when undertaken to be supplied by the buyer unless available to all buyers on proportionally equal terms when such buyers are in competition. There is nothing which accounting can do to aid management in complying with this section of the Act. Nor can accounting furnish any evidence to help refute charges of violation of this section, for the accounting record can not show that the allowance was available to all competing customers, nor can it show that the "proportionally equal terms" were correctly determined for each customer.

Still another section of the law requires the vendor to furnish his services and facilities to all customers on a proportionally equal basis.

This paragraph is aimed at securing equality of treatment for all purchasers in regard to facilities of the vendor in processing such as size, packaging, and branding, and in all aids to distributing the product such as demonstrators, push money, and various dealer helps. Accounting can do little or nothing to aid management to comply with the provisions of this section, but it can be of aid in furnishing evidence for defense against alleged violations of this section. Depending upon the amount of detail in the accounting records, it may be possible to determine the amount of the various dealer helps distributed to various customers, and cost accounting, stores records, and shipping records may be proof that the commodity was packaged and branded in a certain manner and shipped to the customer.

Conclusions

An evaluation of accounting as an aid to management in complying with the provisions of the Robinson-Patman Act is a subject upon which it is difficult to generalize. It may be safely said that accounting is of little aid in complying with any provisions of the Act except in the justification of price differentials by proving differences in cost. About all accounting can do for management, except in relation to the cost clause, is to furnish evidence of transactions, or absence of transactions, and the amounts involved. Accounting can play its greatest role in aiding management by determining the limits of justifiable price differentials.

The significance of the cost differentials which accounting can prove seems to depend upon two principal factors other than simply the total cost to be analyzed. One is the complexity of the organization, that is, the organization of sales department, the number of channels of distribution used, the number of products sold, the method or methods of making deliveries, and similar distribution characteristics. In general, the difficulty of analysis increases with the complexity of distributive processes and the number of products sold. This is because a greater number of joint costs are encountered which must be broken up, an apparently impossible task in many cases. Thus, with an increasing number of joint costs which can not be analyzed, there will be a decreasing justifiable cost differential. Assuming the presence of all the conditions stated in the law which require the same price to customers, management must rely upon distribution cost accounting as the only safe basis for a departure from a single price. Whether the departure from a single price may be a significant one depends upon the amount of the distribution cost and number of joint costs which

can not be analyzed satisfactorily. The amount of the cost and the portion of it which is joint and unallocable depends upon the characteristics of each individual enterprise. Thus, the writer is unable to generalize as to the significance of the cost differentials which may be established, though he does feel that they may in some cases be important, especially in the lower quantity brackets.

The other factor is that of the attitude of the Federal Trade Commission on the analytical techniques to be used. Thus far there have been only two cases in which a cost analysis was made to justify price differentials. In one case the price differential was so obviously justified that a detailed cost analysis was unnecessary, and in the other, the respondent based the analysis upon an error (in the opinion of the Commission), and so the Commission did not comment upon many of the methods employed by the accountants for the respondents. There are, as indicated throughout the thesis, various costs which are joint costs which seem to be unallocable on any definitely measurable basis, yet which the business man feels should be considered in determining cost differences. An example is the mileage costs of delivery which vary with mileage rather than with the products comprising the load. A conservative business man would probably prefer to omit this type of cost from any determination of cost differentials, for he realizes that the burden of proving the propriety of any basis of allocation used rests upon him. If the Commission, in a series of cases, holds that the cost may be allocated upon some basis, for example, delivery mileage costs on basis of weight, then the business man may feel safe in including that cost in the computation of the cost differential. Such inclusion would probably increase his justifiable price differential for increasing size of orders. Inasmuch as many enterprises may find a large portion of their costs of the type described, the future findings of the Commission will affect appreciably the amount of the justifiable price differentials of those companies.

Allocation of Costs for the Justification of Price Differentials

(*See page 9 for explanation of chart.*)

Expenses	*Order of Allocation*	*Basis of First Allocation*	*Basis of Second Allocation*
1. Sales traveling costs (which vary with mileage).	Customer-product.	Proportionate mileage on circuit.	All salesman solicitation cost already allocated to customer may be allocated to products: (1) order taking time—basis of number of lines; (2) promotion—basis of total possible sales to the customer (based on merchandise sold by customer).
2. Sales traveling costs (which vary with time).	Customer-product.	(a) Time on road—proportionate time required to reach each customer. (b) Time at stop direct to customer.	
3. Salesman's salary:			
(a) Salary relating to time to reach customers.	Customer-product.	Proportionate time required to reach each customer.	Same as 1, *above*.
(b) Salary for time spent interviewing customer.	Customer-product.	Direct to customer.	Same as 1, *above*.
4. Sales commissions and bonus:			
(a) Time spent in traveling.	Customer-product.	Proportionate time required to reach each customer.	Same as 1, *above*.
(b) Time spent in selling.	Customer-product.	Direct to customer.	Same as 1, *above*.
5. Salesman's living expenses:			
(a) Living expenses multiplied by stop time, divided by total working time.	Customer-product.	Direct to customer.	Same as 1, *above*.
(b) Living expenses multiplied by travel time, divided by total working time.	Customer-product.	Relative distance to customer.	Same as 1, *above*.

Expenses	*Order of Allocation*	*Basis of First Allocation*	*Basis of Second Allocation*
6. Salesman's supervision: Allocated to each salesman on basis of unit costs for checking reports, sending out form letters, and other routine work. Time reports for other types of supervision. Then allocate to:			
Those supervision costs facilitating travel, e.g., routing.	Customer-product.	Relative distance to each customer.	Same as 1, *above.*
Supervision costs aiding salesman's presentation e.g., cost of sales manual.	Customer-product.	Time spent interviewing customers.	Same as 1, *above.*
7. Telephone costs incurred by salesmen in the field.	Customer-product.	Direct to customer.	Direct to the product, if possible. If a service call or a catalog, allocation on the basis of the total possible sales to the customer (based on merchandise sold by the customer).
8. Telephone solicitation from sales office.	Customer-product.	Functional unit cost plus toll charges direct to customer.	Same as 7, *above.*
9. Taking orders by telephone.	Customer-product.	Functional unit cost direct to customer plus toll charges direct to customer.	Same as 7, *above.*
10. Solicitation by mail, pamphlets, price lists, catalogs, etc.	Customer-product.	Cost per piece (which may vary with the type of piece mailed) plus mailing costs—direct to customer.	Same as 7, *above.*
11. Delivery by rail.	Customer-product.	Direct, on basis of published tariffs.	Direct.
12. Delivery by common carrier (truck).	Customer-product.	Direct, on basis of charges or published tariffs.	Direct.

Expenses	*Order of Allocation*	*Basis of First Allocation*	*Basis of Second Allocation*
13. Delivery by company owned trucks (including all costs):			
(a) Mileage costs.	Customer-product.	Basis of relative distance to reach each customer from distribution point.	(1) Weight or bulk, or (2) do not allocate.
(b) Time costs:			
(1) Travel time.	Customer-product.	Relative time required to reach each customer from distribution point.	(1) Weight or bulk, or (2) do not allocate
(2) Stop or unload time.	Customer-product.	Direct to customer.	Standard handling unit, per case, per pound, depending upon type of merchandise unloaded.
(c) Load cost.	Customer-product.	Relative ton-miles of goods delivered to each customer on the route as computed from the distribution point.	Relative weight of the products delivered to the customer.
14. Mailing department costs: a service department, and its costs are allocated to other functions.	.....	.....	.....
15. Invoice cost (standard costs developed for each operation below):			
Arranging material for typing.	Not included in analysis.		
Inserting invoices.	Not included in analysis.		
Typing heading and shipping instructions.	Not included in analysis.		
Typing one line and extending.	Standard cost direct to customer-product.		
Proof of extension and total.	Standard cost direct to customer-product.		
Proof of weight and total.	Standard cost direct to customer-product.		
Removing invoices.	Not included in analysis.		
Assembling orders.	Not included in analysis.		
Marking production report.	Not included in analysis.		

Expenses	*Order of Allocation*	*Basis of First Allocation*	*Basis of Second Allocation*
16. Accounts receivable (itemized): Actual or standard unit costs are found for each of the following:			
Sorting (orders, etc.).	Customer-product.	The order or voucher sorted.	Per item sorted.
Predetermined total.	Customer-product.	The posting media.	Per item of goods added and listed.
"Stuffing" ledger.	Customer-product.	The number of times the account has been posted.	Not allocated because it is a joint cost, or sales value.
Posting.	Customer-product.	The posting.	Per item for goods posted (posting of purchase returns and allowances).
Checking predetermined totals.	Not allocated	.....	.....
17. Accounts receivable (not itemized).			
Sorting posting media.	Customer-product.	Item of posting media sorted.	Item of posting media sorted.
Predetermined total.	Customer-product.	Item of posting media listed.	Item of posting media relating to the product listed.
"Stuffing" ledger.	Customer-product.	The number of times the account has been "stuffed."	Not allocated, or sales value.
Posting.	Customer-product.	The posting.	(A joint cost of all goods). Not allocated, or sales value.
Checking predetermined total.	Not allocated.	.....	.....

Expenses	*Order of Allocation*	*Basis of First Allocation*	*Basis of Second Allocation*
18. Monthly statements: Allocation same as for accounts receivable. Cost of mailing the statement.	Customer-product.	Functional cost to mail a letter and number of letters mailed to customer.	Sales value, or omit.
19. Collection costs routine:			
(a) Receiving, opening, and sorting remittances.	Customer-product.	Mailing room unit costs for operations performed for the customer.	Sales value.
(b) Listing remittances.	Customer-product.	The number of remittances.	Sales value.
(c) Preparation of cash vouchers to be used for posting.	Customer-product.	The number of remittances.	Sales value.
(d) Verification of remittances.	Customer-product.	The number of remittances.	Sales value.
20. Collection costs, special attention:			
(a) Checking accounts receivable for past due accounts.	Customer-product.	The accounts checked.	Sales value.
(b) Preparation of form letters and maintenance of files.	Customer-product.	The letter mailed.	Sales value.
(c) Mailing of form letters to customers at regular intervals.	Customer-product.	Mailing room unit costs for operations performed for the customer.	Sales value.
(d) Dictation and typing of special letters.	Customer-product.	Dictation and typing unit costs for operations performed for the customer.	Sales value.
(e) Collectors' services.	Customer-product.	Direct charge on time.	Sales value.
21. C.O.D. costs.	Customer-product.	Direct.	Direct (use schedule of charges assuming that each product was shipped separately), *or* omit from analysis.
22. Bad debts expense.	Customer-product.	Credit rating.	Sales value.
23. Dictation and typing:			
(a) Dictation.	Customer-product.	Rate for grade of dictation × amount for the customer.	Amount relating to the product.
(b) Typing.	Customer-product.	Rate for grade of typing × amount for the customer.	Amount relating to the product.

Expenses	*Order of Allocation*	*Basis of First Allocation*	*Basis of Second Allocation*
24. Storage costs (goods carried in stock):			
(a) Labor and equipment cost of placing goods in storage.	Product-customer.	Direct, on time, *or* standard handling unit basis.	Direct, on unit basis.
(b) Storage-occupancy costs.	Product-customer.	Space occupied and length of time in storage. Length of time is a seasonal average.	Direct.
25. Storage costs of goods produced on special order.	Direct to customer-product, on basis of actual space and length of time in storage.		
26. Order filling:			
(a) Clerical:			
(1) Receipt of order.	Discussed elsewhere.		
(2) Approval of credit.	Discussed elsewhere.		
(3) Preparation of routine forms to be used in the packing department, shipping room, follow-up file, etc.	Discussed elsewhere.		
(4) Credit to the stock records.	Direct to customer-product on basis of invoice item.		
(5) Pricing of records.	Direct to customer-product on basis of invoice item.		
(6) Invoice preparations.	Discussed elsewhere.		
(7) Posting to accounts receivable.	Discussed elsewhere.		
(b) Order assembly. Time studies set standard costs for obtaining quantities of goods from stock:			
(1) Counting and handling units.	Direct to customer-product by use of standard costs.		
(2) Trips from bin to assembly point.	Direct to customer-product by use of standard costs.		
(c) Packing standards to be set for packing various quantities of product for shipments by various methods.	Direct to customer-product by use of standard costs.		

Expenses	*Order of Allocation*	*Basis of First Allocation*	*Basis of Second Allocation*
27. Manufacturing cost:			
(a) If manufacturing for stock.	Do not allocate.		
(b) If manufacturing on special order:			
(1) Material:			
Materials if purchased definitely for the order.	Direct to customer-product.		
Receiving and purchasing department costs.	Direct to customer-product on basis of sub-functional unit costs multiplied by number of units performed for the customer.		
(2) Labor:			
Overtime:			
If during rush season.	Allocate to all jobs on basis of labor hours.		
If a rush job results in working overtime to get back on schedule.	Allocate entire overtime to the rush job.		
Set-up costs.	Allocate entirely and directly to the job.		
(3) Overhead.	Do not allocate.		

VITA

The author was born in Sheffield, Illinois, January 18, 1913. He attended the Sheffield schools and graduated from high school in June, 1931. His undergraduate work was done at Monmouth College, where he served as laboratory assistant in accounting for one year, and where he received his B.S. degree in June, 1936. During the next two years he held a teaching assistantship at the University of Illinois, and since that time he has been an instructor in accounting at the University of Cincinnati. He received his M.S. degree from the University of Illinois in 1937.

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